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ABSTRACT

More than 40 leaders from business, government, and academia gathered for a 2-day symposium to focus on the social impact of new communications and information technologies and the extent to which the ways they are being used is decided as a matter of deliberate human choice, and how much by the influence of biased capabilities inherent in the technologies themselves. About half the participants were from Japan, while the rest were from the United States and other countries. This report is a highly-abbreviated, selective account of the symposium written from the viewpoint of its moderator and co-organizer. It is divided into five sections, each corresponding to a roundtable discussion that occurred over the 2 days: (1) The Dynamics of Information-Technology Enterprise and Public Policy; (2) The Demands on Learning and Labor; (3) the Rise of Electronic Democracy; (4) The Power of the Individual; and (5) World Views. A brief synthesis of the symposium discussions concludes the report. (THC)

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THE FUTURE FOR DEMOCRACY IN AN AGE OF CHANGING COMMUNICATIONS

Report of the
Aspen Institute International Symposium
Communications, Technology, and Democratic Values
July 1-2, 1985, Tokyo

By
Michael Rice
Symposium Moderator
Director, Aspen Institute Program on
Communications and Society

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The Aspen Institute is an independent, international, nonprofit organization, which for more than 30 years has brought together leading citizens from the public and private sectors in the United States and throughout the world to consider society's interrelated issues. The Institute's continuing attention to Communications and Society is supported by the John and Mary R. Markle Foundation among others.

THE FUTURE FOR DEMOCRACY
IN AN AGE OF
CHANGING COMMUNICATIONS

Hardly any observer of modern times would disagree with the following statement. It is now so widely accepted as to be commonplace:

> Throughout the world the advances in communications and information technologies are altering the possibilities for human behavior--from the conduct of politics at the highest levels to the daily routines of a person's private life. Ever more powerful computer systems, electronic networks girdling the globe via satellites in outer space, television reaching into the home not just through the air but also by cable transmissions and even cassettes that can be bought, sold, and passed around like books--all these and other innovations are vastly expanding the ways that institutions and individuals communicate and process information.

But even the closest students of changing communications are unsure of how much the social impact of these new technologies is decided as a matter of deliberate human choice among alternative possibilities--and how much by the influence of biased capabilities inherent in the technologies themselves.

In short: To what extent are we using these systems to say and do what we want? And to what extent are we pulled toward using them in line with how they most effectively perform?

A crucial aspect of that question is whether advanced communications tend to be congenial or hostile to democratic values, or whether they will be important to the future of democracy purely according to how we decide they will be.

To answer that is to know whether--as policymakers, business leaders, or citizens who care about democracy--we should (a) try to resist any tendencies in the current sweep of change that might appear to endanger democracy, or (b) try to encourage any tendencies that might appear to promote democracy, or (c) assume that built-in tendencies are unimportant, and that the society that keeps faith with its democratic values will naturally employ its communications technologies accordingly and so has no cause for worry.

It was to sort out those alternative views that some forty

leaders from the worlds of business, government, and academia gathered for a two-day symposium in Tokyo, July 1-2, 1985, in conjunction with the first meeting of the trustees of the Aspen Institute of Humanistic Studies to take place in the Far East. About half the participants were from Japan, while the rest were from the United States and other countries.

The Aspen Institute is an independent, impartial, non-profit organization that for more than thirty years has brought together accomplished citizens from both the public and the private sectors, from both the United States and other nations, to search out ways of resolving the great issues of our time in the light of values that are crucial to a civilized and democratic society.

This report is a highly-abbreviated, necessarily selective account of the symposium written from the viewpoint of its moderator and co-organizer. It is divided into five sections, corresponding to the five roundtable discussions that occurred over the two days.

The Dynamics of Information-Technology Enterprise and Public Policy

Charles Brown, Chairman of AT&T, led off by identifying three technological factors that together are propelling change:

1) The frontiers of microelectronics are in constant advance. The number of components that can be contained on a computer chip is doubling every eighteen months. That increases information-processing power, reduces costs, holds down computer size, and facilitates networking.

2) Photonics (or lightwave) technology promises a huge capacity, doubling every year, for transmitting information long distances at low cost over thin glass fibres without need of amplification. Experiments have already shown that the equivalent of a 30-volume Encyclopaedia Britannica can be transmitted from one city to another over a single fibre in less than a second.

3) Software (the programmed instructions for using computers and communications links) is the key to managing the flow of information, the key to "user friendliness," and the key to managing complexity. As many as a million programmers are now at work developing software in the U.S., but this has proved thus far to be the most productivity-resistant of the technologies.

Brown went on to describe the social trends that track with advances in these technologies:

1) Productivity is increasing worldwide--in factories, offices, educational facilities, and laboratories.

2) Business communications, both inside and among companies, are growing easier and cheaper.

3) Lazy ways of making money--taking advantage of financial floats or transaction delays--are disappearing.

4) Information-processing power is spreading out more and more--even to the individual, thanks to microcomputers.

5) Daily reality is coming closer to the vision that we all live in "one world."

6) Managers are either harnessing these new technologies--or are being left behind.

7) The need for sound national communications infrastructures is all the greater.

"We are at the dawn of a revolution," Brown declared, "I believe in the promise, the positive benefits offered by advances in information technology, but only if we construct a proper vision of the future, only if we plan wisely."

"The challenge," he argued, "is to make today's information technology as universal, as easy to use as the telephone."

"Think of this: Any person, anywhere, using a small device, perhaps no larger than an open book, asks a question. The device--today we call it simply a telephone--responds to normal human speech, sending the question to an active network, not only a transport system with enormous capacity, but in a sense a kind of university in its capability to organize centers of information. It will not be necessary for the questioner to know where the information is stored; it will not even be necessary to know whether it exists: the network will search it out...The computer will have become so capable we won't have to understand it or even know it's there in order to use it."

"The Information Age network we can envision would increase the range of perception of a single individual to include all of the information available anywhere in the network's universe."

"Questions put into this active, capable network in one language may be translated into any other language. Information in the Bibliotheque Nationale will be available to a business executive in Chicago, even though he cannot speak a word of French. Similarly, a student in a tiny village along the Amazon River would be able to use the Library of Congress."

"For the hopes of the world, what could offer more promise than the universal connection of mankind?"

"The networking capability I have just described is not a speculation. Most of it does not have to be invented. It can be engineered. What remains is to decide to do it, convince the public that it is desirable as well as doable--and then get on with the hard part: devising and adopting government and industry policies which facilitate achievement of this goal."

In asking, "What have we done so far in pursuit of this vision?" Brown took exception to some U.S. policies while praising others.

"On the one hand, in the name of competition, we have proceeded mindlessly to dismantle the best communications system in the world today with little regard for the consequences until they are upon us. We have retained the apparatus of government regulation nearly intact and thus constructed the worst of all economic worlds--regulated competition. We have turned a large favorable communication equipment balance of trade into a very large negative balance at exactly the wrong time for the U.S. We have increased the cost of telephone service to the average user and made it much less convenient. We have blurred the responsibility for telephone service beyond all recognition."

"On the other hand, we have encouraged consumer choice. We have enhanced the choices of businesses and thus encouraged innovation. We have created a competitive environment. We have started to dismantle the system of subsidies which give wrong economic signals and cause harmful and irrational economic decisions."

The second leadoff speaker was Yasusada Kitahara, Senior Executive Vice President of Nippon Telegraph and Telephone Corporation (NTT). In contrast to past patterns, where telephone service was in the hands of a public monopoly while computer business was in the arena of private competition, the growing need to exchange computerized data at high speeds among many different locations has led, he explained, to the merging of these once separate technologies and

spurred changes in organizational structure. If in the U.S. the principal structural change has been the break-up of the Bell System, in Japan it has been the privatization of NTT.

Encouraging competition, such change is meant to yield many diverse service offerings at the lowest possible cost for both consumers and businesses, Kitahara said, but "free competition is not almighty." Telecommunications, he maintained, must also provide some benefits equally to everyone. At the least, a minimum level of service should be guaranteed throughout the country in order to erase any regional advantages.

NTT's future commitment, Kitahara promised, is to make the services of its new digital Information Network System (INS), now in formation, available to users "economically anytime and anywhere irrespective of distance."

Among the big problems to be solved, he said, is how to move from today's primary reliance on the telephone to tomorrow's "video society." From sixty to eighty percent of the information we receive is through sight, but the present voice-carrying telephone system is not capable of carrying the sort of moving image we see on television. We must provide broadband services to the public using video technology. As great a challenge as this will be for electronic research, the psychological and ergonomic (human engineering) factors will be no less critical.

Kitahara was even more concerned with the problems of achieving universal connectivity--"the most important function of any telecommunications system. Connectivity of a network is high when a customer can communicate freely with anyone, anywhere and by using any customer-premises equipment (CPE). From this point of view, the connectivity of the existing analog telephone network is rated highly because it fulfills the requirements for voice communications throughout the world."

"Regarding non-voice communications, however, there are obstacles to connectivity. For example, there are many instances where communications between different kinds of computers or CPEs is impossible...As analog networks are replaced by digital networks and plural coding systems come into existence, this problem will increase."

Kitahara concluded by stressing that advances in communications are not purely a technical or industrial matter. "An information-oriented society of the future will be more complex than

today's society, and many problems are sure to occur. Examples range from invasions of privacy, information control, and information flooding--to various types of inherent vulnerabilities including human alienation. This makes it imperative, I feel, for all aspects of the advanced information society--technological, social, and cultural--to be developed in a coordinated, effective manner."

The social, cultural, and psychological aspects dominated, in fact, the ensuing discussion around the table. Burnell Roberts of the Mead Corporation wondered whether we can absorb and handle all the information we are generating. Must we not be more selective? Reinforcing that point, Junnosuke Kishida of the Japan Research Institute cited a recent "information ratio" study that showed people are consuming less and less of the information made available--from 11% in 1970 down to only 6.5% in 1983.

Hidetoshi Kato of the University of the Air took issue with that view. Drawing a comparison with food production, he argued that we can calculate how much food it takes to feed a certain population: anything more than that is wasteful surplus. But we can create as much information as we want: there is no excess production since we can always stockpile it. Whether "information ratios" are higher or lower is meaningless. There can never be too many books, for example, in the Library of Congress.

This "flood" of information struck Shintaro Ota of the Toho Mutual Life Insurance Company in much the same way. "We can't share a typhoon's water," he observed, "but we can share information."

Any "information ratio" measure, added Francis Deng, a consultant for the Rockefeller Brothers Fund, should look at the portion of the community that is consuming the information as well as the portion of information consumed. How can we be sure to utilize people's resourcefulness, to release their energies? Consider, he said, what has happened in agriculture in some societies, where only 3% of the population produces enough for everyone. If that happens in other sectors of the economy, requiring fewer and fewer people to produce more and more, what is to become of everyone who is no longer needed?

Alexander Kwapong of the United Nations University compared a computer user to the driver of a car. The car driver can go wherever he wants, but it is the software, he said, that drives the uses of a computer. It is crucial that room be left for the human being to participate in this technology. Seisuke Komatsuzaki of the Research Institute of Telecommunications and Economics felt that with a growing loss of face-to-face communication, there is a great danger of personal alienation.

"Software is not the problem," responded Charles Brown, "but the solution." It will be software, he predicted, that solves the connectivity problem.

Phillips Talbot, President Emeritus of the Asia Society, raised a question of concern to many at the symposium: What about the slower advances of communications in developing countries? Will the gap between rich and poor nations only widen? Alfonso Ocampo-Londono of the Colombian Institute for Higher Studies felt an even bigger gap would grow between social classes--between the educated and uneducated--within nations.

Olara Otunnu, Uganda's Ambassador to the U.N., worried about the sheer expense of building the necessary infrastructure in the Third World. He was assured by Charles Brown that the information-and-telecommunications infrastructure of the future would be less expensive than traditional ones: "It's getting cheaper by the day."

Italy's Director of Atomic and Energy Resources, Umberto Colombo, stressed how pervasive the new information technologies have become, making even old industries more productive. He urged attention to low-capital-intensive possibilities of blending the most advanced methods with the most traditional.

Kenichi Imai, Hitotsubashi University, and Najeeb Halaby, Halaby International Corporation, returned to the issues of public policy. Imai asked by what process the rules for the further development of these technologies should be defined. Without a clear and agreed process, there will be confusion on such matters as how to provide legal protection to the creators of software, how to transfer new technology and its benefits to other nations or sectors, how to construct public databanks, how to ensure public access to government information, how to protect personal privacy.

Halaby argued that the natural emphasis should be not on creating information, but on making it more accessible. It is on that criterion--which policy model will optimize access?--that choices should be made along the spectrum from monopoly to regulated monopoly to regulated competition to a free market.

Henry Kissinger, recounting his difficulties in getting his own new customer-premises equipment to work, pleaded, "Give me back my simple phone!" More seriously, he worried that policymakers smothered by information are at a loss to know which aspects of it should bear on their decisions. He was no less concerned that, in future, the very presentation of information will be different, designed for a

generation less accustomed to print than to computer consoles and television screens, where the appeal to emotions outweighs the claims of rationality. In the political world, he said, that could invite demogoguery.

On the international front, Kissinger predicted a widening gap between the productive capabilities of totalitarian and democratic societies. The same decentralized access to databanks that is required to manage modern economies will threaten any tightly-centralized political structure such as found in the Soviet Union. A regime preoccupied with maintaining its prerogatives and controls will be consigning its society to an economic backslide.

Closing the session, Saburo Okita of the Institute for Domestic and International Policy Studies acknowledged the trend in Japan, the U.S., and elsewhere toward privatizing communications systems, but he cautioned against relying entirely on imperfect market mechanisms: they cannot meet all human needs, especially as measured on a global scale. Between the operation of market forces and the policies of governments, he said, we have to address the realities: what in fact will it take to achieve our aims?

The Demands on Learning and Labor

The second session was scheduled to address two great challenges that the new technologies have dealt to education: how to incorporate new media and information-processing capabilities into the educational process itself, and how to teach and train a workforce sophisticated enough to maintain a competitive edge and support employment.

In leading off, Jack Conway, Chairman of the Renewable Energy Institute, pointed to the growing diffusion of responsibility for education today. Education for life as a citizen in a democratic society, education for a professional career, education for technical competence--as the aims are divergent, so, more than ever, are the settings in which they are pursued.

Schools and universities are no longer the only educational institutions, Conway observed, as business corporations in their own programs take up both the unfinished tasks of traditional education and the specialized training needed to do a job. Nor can a person's education any longer be confined to childhood and adolescence: it is now, in a highly complex and changing society, a lifelong requirement. Even the traditional nature of community is undergoing change,

he said: today networks of similar interests among people at widely distant locations can be stronger than--and in conflict with--the connections among people who live in the same place.

As new educational technologies enter this increasingly complicated social context, they will have to be more than user-friendly: they will have to be able, if the society is to hold together, to help their users to be empathetic across a wide range of interests, needs, and experience.

The challenge of adjusting is even greater, Conway continued, for individuals in the workplace. Many workers must either change their skills--or become obsolete. The human toll of industry's competitive drive to cut costs is heavier at the lower tiers. The nature of the social problem is new, giving rise to new terms: "employable" and "unemployable" are taking the place of "employment" and "unemployment." New, high-tech jobs are no answer for people whose skills are no match for what the jobs require.

The issue Conway put to the symposium is how, as industry undergoes a convulsive restructuring, the new technologies can make the adjustments easier for both society and the individual.

Ichiro Hattori, President of Seiko Instruments & Electronics, said today's breakthroughs are having as great an impact as Gutenberg's. He forecast the coming of new "books" in the form of small cards bearing information to be viewed on consoles or printed out as needed, leading to "electronic libraries" open to worldwide access. It will be possible for the students to be anywhere--and in unlimited number. If it is a long time between arriving at the technical possibility and realizing it in practice, that will be the fault, he suggested, not of technology, but the conservatism of educators.

Hattori held out the promise that new graphic and other visual-communication innovations, linked with computer-literacy software, will help to overcome traditional barriers to literacy. At the same time, the aims of education will now have to embrace multiple literacies.

The free flow of information is essential to qualitative improvements in education, he said, but so is individual privacy. It will be a challenge to reconcile these values, especially so in societies where education is subject to tight political controls.

Hideyoshi Tominaga, responding to the vision of a worldwide,

universal-access, electronic university, questioned whether such a system could be made to fit all the diverse educational structures of different countries. If it will be hard to achieve standardization of the system's technical characteristics, it will be doubly difficult to fashion cultural connectivity.

Masaru Ibuka, Honorary Chairman of Sony, raised a more fundamental objection. Even should it be possible to use these technologies in education, he asked, is it desirable? The person-to-person contact of the educational experience--"the human area"--should be respected: "Not everything should be mechanized."

"Are we confusing ends with means?" asked Alfonso Ocampo-Londono. Surely, he argued, it will remain the purpose of education "to teach wisdom, not just skills--to create full human beings, not just robots." He recalled that first radio, then television was expected to solve the problems of education--and now computers are. More important, he argued, than the choice of means is the determination of who will direct their use and to what purposes.

Lee Hahn-Been's answer was to call for two kinds of educators: the "graphic communicator," able to use new techniques reaching people who fall outside the realm of literacy; and "the teacher of the invariables, the unchanging values," assigned to address small groups with a face-to-face intimacy.

Yoshiya Abe of the National Center for the Development of Broadcast Education spoke of experience in his field, where some communities objected to courses that, being determined at a distance, failed to take local objectives into account. If such pressures can feed into a two-way information flow, he suggested, they can serve to resist totalitarian impulses and to integrate diverse points of view.

Society needs, said Junnosuke Kishida, two distinctly different things. One is new educational technology that can be used to train people for specialized technical competence as well as for broader interests that permit them to work well with others. The other is a set of moral sensibilities to match the new capabilities, including a respect for individual privacy rights: "Laws won't be enough--the people must be aware."

Quite apart from rights, Olara Otunnu asked, what will happen to the pleasures of old-fashioned reading, of verbal agility in conversation? Computers and communications links are new tools, said Umberto Colombo: learning to use them will be just like learning to read and write, only easier--but everyone will indeed have to learn.

The introduction of these technologies into the workplace, however, will bring "gales of destruction," stemming from the mismatches between the workers available and the skills required. In Europe particularly, he complained, conservatism is a big obstacle to the necessary response.

"Are we reversing the logic of education," asked Francis Deng, "such that the older you get, the more incapable you will be?"

"As one goes up the hierarchy of technical knowledge," Henry Kissinger said, "the information becomes so difficult to understand that the decisionmaker's only option is to select which expert will reflect his prejudices!" No wonder, he suggested, today's world leaders, as Harold Macmillan once told him, have suffered such a loss of confidence in themselves as compared with the World War II generation. They cannot act on their own knowledge.

Somewhat mischievously, Kissinger recalled that in the 1960s professors were divided into two activist categories: they were either applicants for government jobs or joined to protest movements. What if those characters, he asked the group to imagine, started feeding the computers and television systems?

Masaru Ibuka closed the session by urging a return to the fundamental purpose of education--"to nurture fine persons," a process we now know, he said, "must begin in infancy, in the first year of life, even in the first three or four months."

The Rise of Electronic Democracy

The subject of the third session was the harnessing of information and communications systems to serve political purposes. The question was posed: Are the values of democracy being promoted or jeopardized by the electronic modernization of campaigning, lobbying, and constituency-building?

This writer opened with remarks on two features that may distinguish the new "electronic democracy" from what has preceded it: (1) the use of electronic media to target political communications on narrowly specified audiences, and (2) the competition to gain access to communications channels normally closed off to all but authorized voices.

The coming of cable television, videocassettes, and satellite-interconnected video conferences means that the use of tele-

vision to deliver political messages is no longer confined to the tight bottleneck of scarce broadcast frequencies. In the United States, we are beginning to see whole channels or systems devoted to political content. The most conspicuous example is, by its nature, non-partisan: the cable channel called C-SPAN, which carries gavel-to-gavel all the sessions of Congress' House of Representatives. Less conspicuous but likely in time to be more important are the channels so specialized that they are readily available only to closed groups of authorized users. These include video networks set up to orchestrate legislative lobbying campaigns by nationally-organized groups gathered simultaneously at distant locations all over the country.

Being able to use television in a highly targeted fashion now means, for those who can afford it, not having to depend on the uncertain performance of mass-media executives and journalists in getting one's message across. It means that advocates can speak for themselves and, because they are speaking exclusively to those they have chosen to admit into their own channel of communication, they can also speak from an assumption of shared interests and objectives. This is a use of television to build and organize political strength among sympathizers. It is quite different from the imperatives of "fairness" imposed on controllers of a scarce mass medium who must appeal to--and not offend--the broadest possible audience.

In the United States today, we find a more highly developed application of the same strategy in the combined use of computers and the postal system. Narrowly-focused political-interest groups use the computers to identify their potential supporters from masses of demographic, public opinion, and census data. They then use the mails to reach thousands, even millions of those individuals with letters intended both to raise funds and to build a bigger constituency. Without this technique, whole factions on the American political scene would probably not exist as such, much less operate as influentially as they do.

As those who employ such techniques assume a more commanding role in the political process, those who do not, for lack of resources or sophistication, will find it harder to make themselves heard. If that imbalance tips too far, the demands for access to politically effective communications channels may grow to be democracy's prime civil rights issue of the next decade.

Judging whether advances in communications will promote or jeopardize democracy, said Natuhiko Yosida of the Tokyo Institute of Technology, depends first on the particular vision of democracy one

has in mind--which can range from direct participation of the people in government, as found in Japanese villages, to rule by popularly-elected representatives. It becomes a choice between plebiscitary and parliamentary values.

It is possible to imagine, Yosida suggested, a "fifth-generation computer" so thoroughly programmed to represent a society's bases of judgment that it could be used in place of the randomly-selected jury to decide the outcome of trials--or in place of elected bodies to enact new legislation. But, he asked, should it be? Are there not safeguards built into the humanly cumbersome parliamentary process that are too important to risk losing to the efficiencies of information technology?

Yosida acknowledged that standardization of systems is essential for wide acceptance and pointed to the example of Japanese word-processing. But here, too, he questioned whether the effects of widespread adoption will be all to the good. In accepting the limitations of the technology, do we also limit our freedom or powers of speech? Are we courting not an overt danger, but a "tranquil encroachment?"

Shuhei Aida of the University of Electro-Communications also questioned what we want "democracy" to mean. Should it mean reaching judgments on public matters on the level of mediocrity--or on a level par excellence? "Education," he said, presents much the same issue: Is it to bring everyone up to a common level, or is it to produce an elite? Electronics may help us to make common judgments, he allowed, but can they help us to make humanistic or educated judgments?

Henry Kissinger spoke of the impact of today's electronic media on the policymaker. Television has grown to dominate the discourse between political leaders and the public so much, he said, half-jokingly, that "the only person who can run for President of the United States is a rich, unemployed egomaniac." Having to depend on so mercurial a medium has produced "leaders of congenital insecurity."

While high-ranking executive officials often rely on television media to project their intentions, Kissinger added, this is not a relationship that can be turned off and on. Sometimes, even good policy is undermined. In the case of the hostages taken from a TWA flight in Beirut, the media made clear that negotiations were underway while the official line was to refuse to negotiate.

From his own viewing of camera coverage of committee hearings

in Congress, Kissinger felt that the prospect of a television audience has led some Senators to behave theatrically. It promotes, on the one hand, a brand of Caesarism; on the other hand, it guarantees, perhaps, a short life for the Caesar--"about equal," he guessed, "to the attention span of a Dallas viewer."

In the same vein, Junnosuke Kishida regretted that television's news editors are making their "articles" shorter. The medium drives them to emphasize the image and thus to oversimplify the issue.

Taking a more positive view, Yotaro Kobayashi, President of Fuji Xerox, welcomed television's effects on the performance of politicians: "The exposure will make it harder for them to be inefficient."

Akira Tsujimura of the University of Tokyo warned against using new technologies to achieve "direct democracy." Politics must have intermediaries, he argued, or it will yield to radical and unstable mass movements. Henry Kissinger joined in that fear, citing past instances where methods of direct popular participation led to both demagoguery and tyranny. Such methods, he said, mobilize emotions, which either distort or are irrelevant to the proper bases for policymaking. "There has to be," Kissinger declared, "some allowance for an aristocracy of judgment."

The final word of the session came from Robert Mosbacher of the Mosbacher Production Company, who felt that the new political communications channels addressed to targeted audiences are not--and are not likely to be--"so influential or insidious as today's television network news commentators already are."

The Power of the Individual

In its fourth session, the symposium turned to the question of how the character of the individual's relations with large-scale organizations, including government, may be altered with continuing advances in communications and information technologies.

Colin Williams, Executive Vice President of the Aspen Institute, underscored the concern expressed by many around the table that the drive to harness ever more powerful information-processing systems not obscure "what is uniquely human" in the pursuit and uses of knowledge. A society more confident of its quantitative, empirical data than its moral judgments risks creating a "spiritual vacuum, into which the forces of an intolerant fundamentalism are all too ready

to rush." Hearing that the technology to run most of our organized life will require intervention only when human judgment is essential, Williams asked: How will we be sure of knowing when and where those moments of necessary intervention occur?

Jacqueline Grapin of Interavia S.A., Switzerland, confessed to her own "addicting" experience with computer networks. While thus acknowledging their usefulness, she worried about their implications for the confidentiality of information about an individual's personal life. Salaries, medical histories, purchase records--these are all becoming "ordinary data," increasingly available without one's knowledge or permission to insurance companies, employers, government agencies, and others. What will be the costs to the values of liberty and equality, she asked, if the gathering of all sorts of personal data is centralized and integrated under a single authority?

Grapin urged strong, immediate responses to practices of collecting and sharing personal information that are already, she said, threatening the scope of the individual's safety from arbitrary treatment. As a society, we must establish a "right not to know" certain aspects of people's lives; we must cultivate a willingness to ignore, or to stop short of, the possibility of knowing everything.

Masao Horibe of Hitotsubashi University, a member of an official study committee that has addressed the protection of privacy in the processing of personal data in Japan, revealed that information on every Japanese citizen is held in eight different data files, on average, by government and quasi-governmental organizations at the national level--and in more files besides at the local level. In the city of Kawasaki, for example, it was found that the local government gathered an average of sixty items of information on each resident each year.

Besides government, Horibe continued, there are businesses and other organizations that also gather personal data. "In all these cases, we don't know what's on file about us." Generally, such information gathering is for legitimate purposes that benefit both the individual and society as a whole, he granted, but the study committee on which he served concluded that an explicit balance must be struck between state interests and individual privacy rights.

Toward that end, the committee proposed five governing principles: that limits be put on the collection of personal information; that limits be put on its use; that the individual be given the right of access to the information held about himself or herself; that the data be kept up-to-date and safe from tampering; and that those in charge be held accountable.

Yasumasa Tanaka of Gakushin University, a member of the same study committee, observed that the value of privacy was not characteristically Japanese, but a concept learned from other cultures. Among the general public in Japan, the concern for privacy, he said, ranks very low. "To hide anything suggests you are guilty of something--and you don't do that here."

For that reason, said Tanaka, the privacy committee's report got a "cold reaction," a typical comment being, "'Only Communists have to worry about privacy.'" Every Japanese citizen, he pointed out, learns to live in a group and thus expects that personal information will be shared. That is assumed in a society where, from birth to death, an individual files, on average, more than 100 applications to government for one reason or another.

Umberto Colombo told of attempts to assist the woolen-goods industry in Prato, Italy, by introducing computer links between producers and market outlets. The resistance encountered was not out of fear of the technology itself, but from a reluctance to reveal that part of the business which was in the "underground economy." Therefore, in order to encourage the innovation, its proponents had to promise not to reveal any of the data gathered to the tax authorities.

Lee Hahn-Been suggested that cultural characteristics are crucial to the privacy issue. In countries where the prime agenda is still to integrate the whole society, including the rural peripheries, the best policy might be to let the growth of an information infrastructure proceed unhindered. Protecting privacy could wait for a later, more mature stage of development.

Jacqueline Grapin thought the most significant difference in explaining the importance attached to privacy would be found between countries like Japan where a broad consensus exists on how society is organized and countries where a change of government can mean a change in the whole system.

In the United States, said Henry Kissinger, the danger of government's misuse of personal data is presently very small, partly because the files are so scattered, partly because the risks of exposure for attempted misuse are so high and so costly. "What is a problem," he argued, "is the deliberate manipulation of public opinion by survey analysts, confusing political leaders and leading them to focus too much on suppositions of what the public wants to hear."

The civil-liberties proponents have the advantage in the U.S., according to Kissinger. Given the Freedom of Information Act,

"you can destroy an official by putting a memo of a conversation in a computer" with an eye toward its coming to light later on. "I was the last Secretary of State who had verbatim notes taken of all conversations--one would be crazy to do it today. As a consequence, even the history of our times will be distorted by today's defensive record-keeping methods."

Najeeb Halaby felt that the accumulation of too much information was probably less dangerous than too little. He spoke of the many positive contributions of advanced systems, particularly the assists to memory, leaving people more time and energy "to intuit." The real challenge is "to overcome our inhibitions in using this technology."

Hideo Shimizu of Aoyama Gakuin University warned against considering only the privacy aspects of the importance of these new technologies to the individual. There are also the active, enabling aspects--"really an extension of the moves toward 'electronic democracy' discussed earlier."

In Japan, argued Shimizu, the value of disclosing official information should be given greater support. On hearing that the United States might step back from the practices sanctioned by the Freedom of Information Act, he urged, "Please don't, or you'll influence what happens in Japan, too."

World Views

In setting the scene for the final session, Joseph Slater, Aspen Institute President, suggested that much of what we hold significant will defy the organizing and processing powers of information technology. "Life is not so tidy," he said. "There is a role for the creative mess."

The exponential advances in communications, said Robert Ingersoll, the former U.S. Ambassador to Japan, have transformed the conduct of international war and diplomacy. The War of 1812 between the United States and Britain was launched before word of a key decision that could have averted it reached the scene, and the Battle of New Orleans occurred after representatives of the warring powers had already signed a treaty intended to end hostitilies. By contrast, in taking military action today, as the U.S. did in the Mayaguez incident, the White House can use modern surveillance and command systems to make minute-by-minute decisions on operations halfway around the world.

On the question of whether the social cost of increasingly efficient technologies will be a future of increasing unemployment, Ingersoll read from a letter written to President Buchanan in the 19th century predicting that the coming of the railways would undermine the existing canal systems, creating widespread unemployment and distress. Indeed, the canals did fall into disuse, but what was ignored in the forecast was the much greater economic growth that the railways would make possible. Given the U.S.'s constantly rising level of overall employment in recent decades, Ingersoll would not subscribe to the fear that many people will be out of work, but the adjustments, he granted, will undoubtedly be painful to some.

Information is the lifeblood of democracy, Ingersoll said, but he agreed with Kissinger that ways must be found to negotiate confidentially--"not in a fishbowl." Information flows, he judged, are by nature anti-nationalistic: they help to create "citizens of the world." He was concerned that some countries, worried about losing control of information as a basis for taxation or domestic job creation, will restrict data flows across borders, thus reducing the mutual benefits of international trade and development.

Junnosuke Kishida offered four considerations for a global perspective: (1) The introduction of new technologies will tend to expand the discrepancies between developed and developing nations unless accompanied by compensating steps to narrow the gaps. (2) New networks will bring radical change wherever they spread: desirable for some societies, not for all, but unavoidable. (3) The "information revolution" is too indiscriminately embracing a phrase to explain every phenomenon. The impact of particular technologies will vary from region to region. In East Asia, electronic word-processing, unlike typewriters, makes possible the continued use of Chinese characters, thus reinforcing rather than supplanting a part of the ancient cultural heritage that might otherwise have fallen victim to modern necessities. (4) The new information flows can as likely cause worsening frictions and competition among advanced nations as they can new forms of cooperation.

Alfonso Ocampo-Londono observed that most of the symposium had been "a dialogue between two well-developed countries." Developing countries, too, especially in Latin America, would welcome the benefits of new information and communications systems, but how will they afford them? how will they train the people? how will they protect the human values at stake?

To that, Shintaro Ota offered an answer by analogy with an offer made by the Ford Motor Company in 1935 to bear the cost of

paving roads in Japan--in order to create a larger market for their automobiles. (Acceptance of that offer was vetoed by the Japanese military who feared that strategically important information would flow to the U.S.) Ota proposed that the world's giant telecommunications firms make the same sort of offer to the Third World today--to build systems for everyone to use.

In Singapore, Lee Hahn-Been explained, one can receive hourly forecasts of the weather in all the capitals of the region. This sort of service, he felt, implicitly educates people to an awareness of the larger cosmos they share with others.

Parts of Africa are in such desperate straits, said Alexander Kwapong, that to save lives is futile unless the means to support life in the long term are provided as well. He was encouraged by arguments for calling on high technology not to replace, but to enhance the existing processes of economic life.

Discounting fears about the social effects of technological advances, Henry Catto of the Washington Communications Corporation saw them as the latest expression of Ludditism--an attitude that in the U.S., he said, has curtailed such developments as the supersonic transport. He hoped that instead a new optimism about the benefits to be gained was now on the rise.

Returning to issues surrounding the Freedom of Information Act, Henry Kissinger felt that the law had no more than a marginal effect on secret negotiations. "Its real problem," he said, "is that it suffers from the general failure to distinguish what's relevant from what's irrelevant, thus inviting abusive exploitation of the information disclosed."

In the 19th century, Kissinger went on, the instructions to diplomats were conceptual. In framing them, governments necessarily had to formulate their basic objectives. But now instructions are never phrased conceptually. Diplomats are just told what to say, not what it is supposed to mean. "The executor of policy hasn't the foggiest idea of its purpose, and the formulator just takes one problem at a time with no larger concept in mind." This has been the inadvertent result of the capacity for instantaneous worldwide communication, an ironic result for an age when the role of diplomats in explaining their assigned countries--"the intangible qualities"--to their home countries is more critical than ever.

Kissinger would not abolish the Freedom of Information Act, but he would favor new criteria of relevance for scholarly use of

government files. "There is so much information now, how can we even write the history of our own times? How can we judge the role of the individual? or distinguish between that part of policy and behavior which is discretionary, and that part which is objective necessity?"

To close the session and the symposium, Yotaro Kobayashi said he had been most impressed by the value that so many participants placed on the role of human judgment, for which technological progress is no substitute and, so long as we never delude ourselves into believing it can be, need not be a threat either.

Afterthoughts

While the telecommunications industry leaders at the symposium held out a vision of "the universal connection of mankind," most of the other participants were quicker to identify and dwell on the possible negative consequences of advances in communications and information systems.

Some admitted fears or skepticism stemming from their own unfamiliarity with the technologies under discussion. Undoubtedly, had the makeup of the group been skewed toward users, developers, or providers who viewed the benefits of these systems from first-hand experience, the predominant outlook on the likely social effects would have been more buoyant.

As it was, the symposium served to articulate the cautionary reaction of those in society who regard today's rapidly changing communications as something that is happening to them, not as something they are making happen. For them, the new possibilities for handling immense data flows, for global television networks, or for multiplying the channels of interconnection between people and institutions can stir feelings of regret as well as awe--regret for the loss of a time and style when the pursuit and communication of knowledge followed the pathways of print, when decisions on great matters of the day were the province of "aristocrats of judgment," when the potential for inadvertent runaway effects seemed more contained. This is a reaction more characteristic, one suspects, of people who have been accustomed to positions of leadership than of the public at large.

But if the critique of the new communications era is elitist, that is not to say it is unfounded, particularly as it relates to the values and processes of democracy. Significantly, the prevalent concern at the symposium was not that deliberately anti-democratic parties would seize the technologies for their own repressive purposes. That is the sort of overt danger that can be recognized and, in a

society of healthy democratic institutions and traditions, will be resisted. Instead, the anxiety centered on the possibilities for an inevitable though unintentional rush into practices or habits--such as the centralization of personal databanks, the increasing reliance on electronic opinion polling as a basis for public policy formulation, or the popular capitulation to the power of the emotional moving image over the rational appeal of the printed page--that even singly, but especially when added together, might endanger freedoms, destabilize the institutions of governance, or demean the culture.

It is possible to feel this anxiety without supposing that technology has a mind of its own. The worry is about where our success in using technology will take us. It comes from a sense that different technologies "invite" us to use them for what they do "best," usually meaning what they are most efficient or effective at doing, not necessarily what might be most assuredly fair, free from abuse, or appealing to our highest motives.

Again and again, the symposium participants granted that we now have technologies that vastly increase our powers to collect and organize data, to transmit and exchange information instantaneously over great distances. But, they would go on to say, we do not have the technologies to make our judgments wise, to ensure that the values imparted to new generations are inspiring and decent, or to guarantee that the aspects of life they reinforce are intrinsically worthy.

The fear is that these loftier obligations, not being the stuff of technological progress, will lose their hold on our respect, to be replaced by a preoccupation with our increasingly powerful and impressive capacities to master a world that is quantitatively defined.

Ultimately, then, it was not technology that was questioned, but the sturdiness--in the face of the near-overwhelming dazzle and drive of the communications and computer age--of democratic society's fidelity to its own professed values.